

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Original) A method for handling packet flows, comprising sequences of data packets, in a communication or computer system, the method comprising: assigning an exit number to each said packet; queuing said packets in buffer means; allocating said exit numbers to storage bins, each bin accepting a respective range of orders of exit numbers (1, 3-2, 7-4); and outputting the queued packets in a predetermined order according to an order list determined by said exit numbers assigned to said packets before said packets are queued; the method characterised by the step, before said outputting step, of sorting the contents of a bin containing a first range of exit numbers (3-2, 7-4) into a plurality of bins each containing a smaller range of exit numbers (3, 2, 7-6, 5-4).

2. (Original) A method as claimed In claim 1, wherein said sorting step is repeated until the contents of the bins are completely sorted.

3. (Currently Amended) A method as claimed in claim 1 ~~or claim 2~~, wherein said queuing step comprises placing each said data packet together with its respective exit number in said buffer means, said buffer means comprising said storage bins.

4. (Currently Amended) A method as claimed in ~~any of claims 1 to 3~~ claim 1, wherein said queuing step comprises placing packet records, each record containing information about its respective packet, together with their respective exit numbers in said bins.

5. (Original) A method as claimed in claim 4, wherein the packet records are of fixed length.
6. (Currently Amended) A method as claimed in claim ~~4 or claim 5~~, wherein the packet records are shorter than said packets.
7. (Currently Amended) A method as claimed in ~~any of claims 4 to 6~~ claim 4, wherein the bins for higher order exit number packet records have a larger range than bins for lower order exit number packet records.
8. (Original) A method as claimed in claim 7, wherein under circumstances in which a packet record is assigned an exit number (2) corresponding to a bin that is currently being emptied, that packet record is held in a specially created secondary bin (2') of the same exit number order for emptying after the said bin that is currently being emptied.
9. (Currently Amended) A method as claimed in ~~any of claims 4 to 8~~ claim 4, wherein the bins are FIFO buffers.
10. (Currently Amended) A method as claimed in ~~any of claims 4 to 8~~ claim 4, wherein the bins are LIFO stacks.
11. (Currently Amended) A method as claimed in ~~any of claims 4 to 8~~ claim 4, wherein the bins area mixture of FIFO buffers and LIFO stacks.
12. (Original) A method as claimed in claim 1, wherein queue management is performed by (a) processing all of said bins in parallel and (b) inserting incoming data into a bin by means of a parallel processor.
13. (Original) A method as claimed in claim 12, wherein said parallel processor performing said inserting step (b) is an array processor.

14. (Original) A method as claimed in claim 13, wherein said array processor performing said inserting step (b) is a SIMD processor.
15. (Original) A method as claimed in claim 1, wherein said sorting step is carried out by a parallel processor.
16. (Original) A method as claimed in claim 15, wherein said parallel processor is an array processor.
17. (Original) A method as claimed in claim 16, wherein said array processor is a SIMD processor.
18. (Original) A data manager for handling packet flows, comprising sequences of data packets, in a communication or computer system, the system comprising: assigning means for assigning an exit number to each said packet; buffer means for queuing said packets; a series of storage bins; allocating means for allocating said exit numbers to said storage bins, each bin accepting a respective range of orders of exit numbers (1, 3-2, 7-4); and output means for outputting the queued packets in a predetermined order according to an order list determined by said exit numbers assigned to said packets before said packets are queued; the system characterised by sorting means upstream of said output means for sorting the contents of a bin containing a first range of exit numbers (3-2, 7-4) into a plurality of bins each containing a smaller range of exit numbers (3, 2, 7-6, 5-4).
19. (Original) A data manager as claimed in claim 18, wherein said allocating means comprises a parallel processor.
20. (Original) A data manager as claimed in claim 19, wherein said sorting means comprises a parallel processor.
21. (Currently Amended) A data manager as claimed in claim 19 ~~or claim 20~~, wherein said parallel processor is an array processor.

22. (Original) A data manager as claimed in claim 21, wherein said parallel processor is a SIMD processor.

23. (Currently Amended) A data manager as claimed in ~~any of claims 18 to 22~~ claim 18, wherein said buffer means is adapted to queue said data packets together with their respective exit numbers.

24. (Currently Amended) A data manager as claimed in ~~any of claims 18 to 22~~ claim 18, wherein said buffer means comprises said series of bins, and wherein said bins are adapted to receive packet records, each record containing information about a respective packet, together with the respective exit number, and said buffer means is adapted to queue said packets.

25. (Original) A data manager as claimed in claim 18, wherein said sorting means is adapted to repeat sorting said bins until the contents of the bins are completely sorted.